



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/525,318

10/07/2005

Natalia N. Bogdanova

38-21(15414)B

5329

27161

7590

01/08/2008

MONSANTO COMPANY

800 N. LINDBERGH BLVD.

ATTENTION: GAIL P. WUELLNER, IP PARALEGAL, (E2NA)

ST. LOUIS, MO 63167

EXAMINER

KUBELIK, ANNE R

ART UNIT

PAPER NUMBER

1638

MAIL DATE

DELIVERY MODE

01/08/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/525,318	BOGDANOVA ET AL.	
	Examiner	Art Unit	
	Anne R. Kubelik	1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,7,9-16 and 19-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,2,4,7 and 9-13 is/are allowed.
- 6) ☒ Claim(s) 14-16 and 19-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-2, 4, 7, 9-16 and 19-22 are pending.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. The objection to claims 3 and 5-6 under 37 CFR 1.75 as being a substantial duplicate of claim 2 is withdrawn in light of Applicant's cancellation of the claims.
4. The objection to claim 8 as being dependent upon a rejected base claim is withdrawn in light of Applicant's cancellation of the claim.
5. The objection to claim 20 under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim is withdrawn in light of Applicant's amendment of the claim.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
7. Claims 15-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that Applicant regards as the invention. Dependent claims are included in all rejections.

Claim 15 is indefinite in its recitation of "a Cry1Bb protein as set forth in SEQ ID NO:3", as SEQ ID NO:3 is a nucleic acid sequence. For purposes of examination, the claim was interpreted as reading a protein encoded by such a sequence.

Claim Rejections - 35 USC § 102

8. Claims 14 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Donovan et al (1994, US Patent 5,322,687) taken with the evidence of GenBank Accession No. Q45739 (2007). The rejection is modified from the rejection set forth in the Office action mailed 12 July 2007, as applied to claims 7, 14 and 17. Applicant's arguments filed 12 October 2007 have been fully considered but they are not persuasive.

Donovan et al teach a nucleic acid encoding amino acids 2-600 of SEQ ID NO:2 and amino acids 3-601 of SEQ ID NOs:4, 7, 10, 12 and 14; the protein they call cryET4 is identical to the instant cry1Bb. Donovan et al also teach a method of producing a transgenic plant resistant to lepidopteran infestation by transformation with the nucleic acid operably linked to a promoter (column 11, lines 1-12). The nucleic acid taught by Donovan et al would comprise at least a dinucleotide of SEQ ID NO:3, and thus comprises "a" nucleotide sequence as set forth in SEQ ID NO:3, 5, 8, 11 or 13. The plants are samples comprising such a nucleotide sequence.

Donovan et al also teach nucleic acid encoding a cry protein they call CryET5 and plants comprising both cryET4 and cryET5 (column 5, lines 40-42).

GenBank Accession No. Q45739 teaches Donovan's CryET5 is also a Cry1Bb protein.

Applicant urges that the claims have been cancelled or amended (response pg 7).

This is not found persuasive because the recitation of "a nucleotide sequence set forth at SEQ ID NO:3 is interpreted as a fragment of SEQ ID NO:3. The rejection over claim 19 is new.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a), which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 14 and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Donovan et al (1994, US Patent 5,322,687) in view of van Dun (WO 99/23233).

The claims are drawn to an extract or biological sample derived from a corn plant part, wherein the extract or biological sample comprises "a" nucleotide sequence of SEQ ID NO:3, 5, 8, 11 or 13.

The teachings of Donovan et al are discussed above. Donovan et al do not disclose corn as the plants.

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to choose corn as the plants taught by Donovan et al. One of ordinary skill in the art would have been motivated to do so because of the economic importance of corn and the resulting economic cost of insect pest damage, and to produce extracts and biological samples from the corn plants, as this is the form in which corn products are sold.

11. Claims 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Donovan et al (1994, US Patent 5,322,687) as applied to claims 14 and 19-22 above, and further in view of van Dun et al (WO 99/23233).

The claims are drawn to a method for producing an insect resistant plant, said method comprising crossing a plant transformed with nucleic acid encoding the Cry1Bb protein encoded

Art Unit: 1638

by SEQ ID NO:3 and a first selectable marker with a plant transformed with nucleic acid encoding another CryI protein and a second selectable marker.

The teachings of Donovan et al are discussed above. Donovan et al do not disclose crossing to produce the claimed plants, or the herbicide resistance genes listed in claim 16.

van Dun et al teaches ways of obtaining transgenic plants constitutively expressing more than one chimeric gene (pg 16, paragraph 2), including crossing one a plant transformed with one chimeric gene and a first selectable marker with a plant transformed with another chimeric gene and a second selectable marker (pg 16, lines 18-27). van Dun et al also teaches numerous herbicide resistance genes, including glyphosate insensitive EPSPS and bar (paragraph spanning pg 10-11).

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to produce plants comprising two Cry1Bb proteins as taught by Donovan et al, to using the method described in van Dun et al. One of ordinary skill in the art would have been motivated to do so because of the advantages van Dun et al teaches of the method, including the ability to select seed based on the presence of the two selectable markers (pg 16, lines 18-27).

Claim Objections

12. Claim 22 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 22 fails to further limit claim 21 because the nucleotide

Art Unit: 1638

sequence recited in claim 21 would inherently be detectable using nucleic acid amplification or hybridization.

13. Claims 1-2, 4, 7, and 9-13 are allowed.

Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anne R. Kubelik, whose telephone number is (571) 272-0801. The examiner can normally be reached Monday through Friday, 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg, can be reached at (571) 272-0975.

The central fax number for official correspondence is (571) 273-8300.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

Anne Kubelik, Ph.D.
January 4, 2008

/Anne Kubelik/
Primary Examiner